

1                   RECORD OF ORAL HEARING

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3                   UNITED STATES PATENT AND TRADEMARK OFFICE

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6                   BEFORE THE BOARD OF PATENT APPEALS  
7                   AND INTERFERENCES

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10                  Ex parte THORSTEN KRAWINKEL

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13                  Appeal 2007-1224  
14                  Application 10/628,725  
15                  Technology Center 1700

MAILED

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PAT. & T.M. OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

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18                  Oral Hearing Held: May 9, 2007

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22                  Before CATHERINE Q. TIMM, JEFFREY T. SMITH, and  
23                  LINDA M. GAUDETTE,  
24                  Administrative Patent Judges

25  
26                  On Behalf of the Appellant:

27  
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Application 10/628,725

1           The above-entitled matter came on for hearing on Wednesday,  
2 May 9, 2007, commencing at 10:15 am at the U.S. Patent and Trademark  
3 Office, 600 Dulany Street, 9<sup>th</sup> Floor, Alexandria, Virginia.

4           CLERK: Calendar No. 20, Case No. 2007-1224. The attorney is  
5 William Gerstenzang.

6           Mr. Gerstenzang entering the hearing room.)

7           JUDGE TIMM: Good morning, Mr. Gerstenzang.

8           MR. GERSTENZANG: Good morning, Your Honors. It's a  
9 pleasure to be here, and I promise to be brief and not to bore you.

10          JUDGE TIMM: You have 20 minutes to start your argument.  
11 And if you could, at the beginning, spell your name for the court reporter,  
12 please.

13          MR. GERSTENZANG: Oh, sure. My name is William, and  
14 the second name is spelled Gerstenzang, G-e-r-s-t-e-n-z-a-n-g. And I  
15 understand I do have 20 minutes. I hope I can get through this quicker than  
16 that.

17          From my own prior experience before the Board, before other  
18 panels, I understand that you've read the briefs. You've studied the

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1 references. You've studied the file. You know just about everything there  
2 is to know about this file. So I'm just going to focus on the differences and  
3 on the really critical issue.

4 First of all, you understand that applicant's claims are directed  
5 to an adhesive comprising a block copolymer which has 1,3 conjugated  
6 dienes in it, and that only the 1,2 -- well, that the 1,2 linked dienes are  
7 hydrogenated.

8 JUDGE TIMM: So this block copolymer, when you  
9 polymerize the butadiene, or the diene, you will end up with 1,2 links as  
10 well as 1,4 links?

11 MR. GERSTENZANG: That's correct. And only the 1,2 links  
12 are hydrogenated. Now, the best illustration of this is, again, if we're  
13 using -- they're 1,3 dienes, but a butadiene is illustrative of it. And the  
14 examiner provided us with copies of the Concise Encyclopedia.

15 If you look on page 17, there's a pretty good illustration and  
16 you can see the butadiene molecule in the right-hand corner on page 97,  
17 right-hand column towards the bottom. It just helps to have that in front of  
18 us when we're talking.

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1            You can see the normal butadiene. And it's the conjugated  
2       diene. It's the 1,3 conjugated because the first double bond comes off the  
3       No. 1 carbon. The second double bond comes off of the No. 3 carbon.  
4       That's why they call it 1,3.

5            Now, when that is polymerized, you can get the 1,2 linkage,  
6       which is shown right at the end of that arrow, coming off of the normal  
7       butadiene. So it's just the two end carbons that are linked, the No. 1 and No.  
8       2, and the 3 and 4 are bent down.

9            So if you just had that linkage, you'd have periodic linkages  
10      where you'd have a series of those double bonds pendent from the chain or  
11      hanging down. But you also get the 1,4 linkages, which is shown at the  
12      bottom of the page. And we can disregard for our argument the stereo  
13      isoprene.

14           Those are linked just at the very end, the 1,4, and the double  
15      bond is in the middle. So what you have in this polymer is a statistical or  
16      randomly distributed statistical mixture of the 1,2 linkage and the 1,4  
17      linkages.

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1           So if you look at that chain -- which probably has a thousand of  
2   these things or more -- you look along the chain, you'll see some double  
3   bonds right in the chain, and then you'll see a bunch of them hanging down.

4           And applicant's product has the double bonds that are hanging  
5   down, hydrogenated so there's no double bonds, but the double bonds in the  
6   chain are still there. The question is: Does Luhmann, the Luhmann  
7   reference, teach that?

8           I think that the gist of the examiner's argument can be found in  
9   column 3 in the paragraph beginning at line 42. That's where he's coming  
10   from. In Luhmann, he says that his self-adhesive compositions have the A  
11   blocks, which is styrene, and he also has the 1,3 dienes, which are  
12   preferably butadiene and isoprene.

13           But then he says both homo and copolymer blocks can be used  
14   in accordance with the invention. Then he says, "Resulting block  
15   copolymers may contain identical or different D blocks, which may  
16   contain" -- "which can be harsh" -- identical or different -- "which can be  
17   partially, selectively, or completely hydrogenated." So he's referring to the  
18   D blocks, not something within each D block.

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1                   Now, you can forget about the completely hydrogenated  
2 because that's just not an issue. The real issue is: Does selectively  
3 hydrogenated or partially hydrogenated read on applicant's invention or  
4 suggest applicant's invention?

5                   Let's talk about the partial hydrogenation first. When a chemist  
6 is going to partially hydrogenate or partially react one thing with another, he  
7 will put in less than the stoichiometric amount of his hydrogenation agent.  
8 So if, for the sake of argument, he has 100 moles of double bonds and he  
9 wants to partially hydrogenate it, he'll put in 50 moles of his hydrogenating  
10 agent or 75 so he cannot completely hydrogenate it. He'll have partial  
11 hydrogenation.

12                  But that partial hydrogenation will partially hydrogenate some  
13 of the double bonds that are in the chain, some of them that are pendent. He  
14 doesn't discriminate. He's going to partially hydrogenate. He's going to  
15 cook it.

16                  JUDGE TIMM: Two points. First, your specification uses the  
17 words "partially" and "selectively" interchangeably. For instance, at the top  
18 of page 8 of your specification, you talk about "the partially hydrogenated

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1 block copolymers described above." So I question whether there is a  
2 difference in the art between those terms.

3 MR. GERSTENZANG: Oh, there definitely is. (Examined  
4 documents.) Well, I guess the answer to that question is I think that  
5 "partially hydrogenated" is generic to "selectively hydrogenated." So it's  
6 selectively partially. In other words, applicants clearly hydrogenate only  
7 those pendent double bonds, the 1,2 linked. So yes, that's partially  
8 hydrogenated because all the double bonds are not hydrogenated.

9 But Luhmann never teaches or suggests anything about  
10 selectively hydrogenating a particular linkage within his D block.

11 JUDGE TIMM: The second point that I wanted to make was  
12 with regard to the fact that the 1,2 links are, as you say, terminal. So when  
13 you're hydrogenating, wouldn't those inherently be the very first ones that  
14 would become hydrogenated?

15 MR. GERSTENZANG: They may very well be. But  
16 depending on the reaction conditions you use, you may hydrogenate them  
17 and you may hydrogenate some of the ones in the chain as well.

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1                   So the potentially hydrogenated D blocks, as referred to by  
2   Luhmann, he doesn't say, just use enough hydrogenating agent to  
3   hydrogenate the more easily reacted pendent double bonds. He says  
4   "partially reacted." That could be 90 percent hydrogenated, which would  
5   obviously have to include some of the double bonds in the chain itself. He  
6   doesn't even -- he doesn't distinguish between the different types of  
7   linkages.

8                   But yes, I think you're right. If you hydrogenated this thing  
9   under the severe conditions, say, that would hydrogenate everything, I think  
10   the first to go would be the pendent ones because our spec teaches that those  
11   are the more easily reacted.

12                  JUDGE TIMM: He does use the term "selectively" and  
13   "partially."

14                  MR. GERSTENZANG: Yes, he does.

15                  JUDGE TIMM: So there is a teaching, at least, of  
16   hydrogenating only some of the bonds.

17                  MR. GERSTENZANG: Well, no. I don't think that that's what  
18   he's saying. You have to look at what it is that you're selecting from. And

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1 again, if you read that sentence starting with the last word on line 46, he  
2 said, "Both homo and copolymer blocks" -- there's different kinds of  
3 blocks -- "can be used in accordance with the invention. Resulting block  
4 copolymers" -- meaning those that have the different -- "Resulting block  
5 copolymers may contain identical or different D blocks, which can be  
6 partially, selectively, or completely hydrogenated."

7 I would submit that that means that it is only when you have  
8 different D blocks that you can selectively hydrogenate them because he is  
9 selective hydrogenating D blocks. I don't think you can selectively  
10 hydrogenate D blocks if they're all the same. And he's not talking about  
11 selectively hydrogenating some double bonds but not others. He doesn't  
12 even address the 1,2 versus 3,4 linkage.

13 So I think the implication of what he's teaching is to selectively  
14 hydrogenate certain D blocks when they're different. I checked his  
15 examples, too, and his examples are not illustrative of any selective  
16 hydrogenation. He uses one component, which is not a diene. It's a rosin  
17 that is partially hydrogenated.

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1                   So that's the gist -- oh, one other thing. In the examiner's brief,  
2 on page -- well, in the discussion on pages 3 and 4, but focusing mainly on  
3 page 4, the last sentence of that paragraph that's partial at the top of page 4,  
4 he says, "Finally, it must also be noted that even if other moieties besides a  
5 fraction of 1,2 linked diene which is selectively hydrogenated are present in  
6 the adhesive composition, this fact is simply irrelevant in view of the fact  
7 that all of his claims are open-ended."

8                   He's talking about the reference, and he's looking at the  
9 reference's claims. I think he's looking more from an infringement point of  
10 view. "It must be noted that even if the moieties besides a fraction" which  
11 is selectively hydrogenated is present -- well, nothing in Luhmann says  
12 anything about selectively hydrogenating the 1,2 only dienes. His selection  
13 is among the D blocks, some of which are going to be hydrogenated, some  
14 of which are not.

15                   So that's all I have to say.

16                   JUDGE TIMM: Would you say that this disclosure at column  
17 3 in the reference discloses a number of specific embodiments, one where  
18 you have identical D blocks, and different D blocks? And in the context of

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1 this disclosure, there's really -- when you have different D blocks, there's  
2 going to be the 1,2 and the 1,4 linkages.

3 MR. GERSTENZANG: In each of the D blocks where you  
4 have the conjugated diene, you will have the 1,2 and the 1,4 linkages. But  
5 one of the D blocks could be based on the butadiene and the other could be  
6 based on, say, the isoprene. So those would be the different D blocks.

7 But you will not have a block of 1,2 linked dienes and then  
8 another block of 1,4 linked dienes. That's not going to happen. If you're  
9 going to polymerize the butadiene or any 1,3 diene, you're going to get a  
10 random distribution of those two linkages within one block.

11 And those blocks statistically will be the same unless you're  
12 throwing in another diene, like the isoprene, which I think he refers to. He  
13 says, "preferably butadiene and isoprene."

14 JUDGE TIMM: So when he refers to different D blocks, then,  
15 you think the reference is to the different composition butadiene and  
16 isoprene blocks?

17 MR. GERSTENZANG: Oh, absolutely. Oh, yes. Oh, yes.  
18 You're not -- you could not get different D blocks from a polymerization of

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1 butadiene or just isoprene. You're only going to get those if you're  
2 polymerizing the two of them. You get a D block. You'll get one block of  
3 butadiene, one block of isoprene, and so on, depending on how you run the  
4 reaction.

5 JUDGE TIMM: So if you have a block copolymer that has  
6 identical D blocks, and those D blocks are butadiene blocks --

7 MR. GERSTENZANG: Then you're not going to selectively  
8 hydrogenate under the Luhmann reference.

9 JUDGE TIMM: Well, wouldn't you get -- within those D  
10 blocks, you would get both the 1,2 linkages and the 1,4 linkages.

11 MR. GERSTENZANG: That's right.

12 JUDGE TIMM: And when you selectively hydrogenate, you  
13 might get selective hydrogenation of the 1,2, depending on when you stop  
14 the hydrogenation.

15 MR. GERSTENZANG: Well, no, because again, when you say  
16 "select," you've got to have a foundation for making that selection. The  
17 only foundation he's got for making selections is the different kinds of D

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1 blocks. You can't select among things that are the same. I mean, that's not a  
2 selection. So he's got to have the different D blocks.

3 And I -- I take your point, though. If you're going to  
4 selectively hydrogenate, say, the butadiene blocks, the butadiene blocks will  
5 react under different reaction conditions than the isoprene. So it's possible  
6 for a skilled chemist to hydrogenate all of his butadiene and none of his  
7 isoprene, I think, or the other way. And I think that's what he's talking  
8 about.

9 JUDGE TIMM: I see.

10 MR. GERSTENZANG: And yes, that's his selection because  
11 based on the text of this reference, there is no knowledge conveyed about  
12 the different lengths, the different kinds of lengths, or the possibility of  
13 selectively hydrogenating different linkages within a particular D block.

14 When you say select one of the above, select out of what?  
15 What are my choices? Your choices for the selection here are only the  
16 different D blocks. HE DOESN'T give you any choice to select any  
17 particular linkage. Of course, if he's a skilled chemist and he thinks about it,  
18 he probably knows there are different kinds of linkages.

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1           But that's not what he's talking about. He's talking about the  
2 particular D blocks. It hasn't entered this guy's mind, based on what he's  
3 written, to selectively hydrogenate within a D block, hydrogenate particular  
4 diene linkages. At least, that's how I read it. Okay?

5           JUDGE TIMM: Okay. Do you have any more questions?

6           JUDGE SMITH: No.

7           MR. GERSTENZANG: Thank you very much, Your Honors.  
8           Have a nice day.

9           (Whereupon, at 10:45 a.m., the appeal was concluded.)